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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,166	01/14/2005	Hiroshi Morikawa	IRD-0004	5678

23353 7590 03/17/2008
RADER FISHMAN & GRAUER PLLC
LION BUILDING
1233 20TH STREET N.W., SUITE 501
WASHINGTON, DC 20036

EXAMINER	
SQUIBB, BARBARA D	

ART UNIT	PAPER NUMBER
2625	

MAIL DATE	DELIVERY MODE
03/17/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/521,166	MORIKAWA, HIROSHI	
	Examiner	Art Unit	
	BARBARA D. SQUIBB	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 January 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/14/2005*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

2. Claim 10 is objected to because of the following informalities:

Claim 10, page 45, line 21: the language "… unit for executes processing" is mixing tenses. Suggested language may include: "unit for executing processing" or "unit that executes processing" or similar. Appropriate correction is required.

Double Patenting

3. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

4. Claims 10-12 and 24 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-2 and 5 of copending Application No. 10/521,355. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

For example:

Application 10/521166, Claim 24	**Application 10/521355, Claim 5**
A computer program that enables a computer to execute the steps of:	A computer program that enables a computer to execute the steps of:
acquiring color bitmap data stored thereon;	acquiring bitmap data stored on the computer;
eliminating jaggies appearing on the bitmap data;	eliminating jaggies appearing on the bitmap data;
and outputting data that is produced based on processing results obtained in the jaggy elimination step	and specifying printing of data that is produced based on processing results obtained in the jaggy elimination step

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 20-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 20-24 fail to claim that the program is recorded on an appropriate computer or printer readable medium so as to be structurally functionally interrelated to the medium and thus permit the function of a descriptive material to be realized.

Examples of acceptable language in computer-processing related claims :

1. “computer readable medium” encoded with ______

[a] “a computer program”

[b] “software”

[c] “computer executable instructions”

[d] “instructions capable of being executed by a computer”

2. “a computer readable medium” ________ “computer program”

[a] storing a

[b] embodied with a

[c] encoded with a

[d] having a stored

[e] having an encoded

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 2-6, 16, 17, 21 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2-6, 16, 17, 21 and 22 are based upon using a “certain calculation”. The specification states the “certain calculation” is the calculation of coordinate information of the bitmap data after transformation using coordinate information of the bitmap data

before transformation. It is further stated that using the function of a certain calculation enables coordinate information within bitmap data before transformation to change into coordinate information after transformation, and thereby, bitmap data after transformation is produced. Using this function, the way in which bitmap data is transformed can be altered. *The "inverse function of a certain calculation" is employed for producing bitmap data <u>after transformation</u> rather than before*. The term "certain calculation" is not defined. Additionally, it is <u>unclear whether coordinate information is obtained from vector data or bitmap data and it is unclear how the calculation works</u>.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 2, 6-9, 15, 16, 18, 20, 21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishida et al (6,232,978).

Regarding claim 1, Ishida discloses an output apparatus **(col. 1 lines 9-13)** for transforming and outputting bitmap data comprising **(col. 1 lines 41-54)**: a bitmap data storage unit **(72) (Figure 15, data stored on the disk) (col. 3 lines 30-35)** for storing bitmap data **(col. 9 lines 35-36)**; a vectorization unit **(Figure 14, first smoothing unit)** for producing first vector data **(col. 1 lines 28-29 & col. 1 lines 44-47)** by vectorizing at

least one part of the bitmap data **(col. 1 lines 29-33)**; a data production unit for producing bitmap data after transformation **(col. 1 lines 49-51)** that is composed of a plurality of dots **(101, pixel) (Figure 10, col. 2 lines 1-4)** having a predetermined positional relationship **(102)** with a certain position on the bitmap data **(Figure 10, col. 2 lines 7-14)**; and an output unit for outputting the bitmap data **(Outline extraction unit) (col. 1 lines 41-54)** after transformation produced by the data production unit **(col. 1 lines 49-51)**, the data production unit setting up a color **(black or white pixel) (Figure 12, col. 2 lines 21-25)** of the certain position **(Figure 11, col. 2 lines 26-28)** that is determined based on the first vector data **(outline extraction, col. 1 lines 28-29 & col. 1 lines 44-47)** and a color of a dot on the bitmap data **(black or white pixel) (Figure 12, col. 2 lines 21-25)** for the dot having the predetermined positional relationship **(102)** with the certain position **(Figures 10 & 11, col. 2 lines 7-14 & 26-28, col. 6 lines 34-55).**

Regarding claim 2, Ishida discloses an output apparatus **(col. 1 lines 9-13)** for transforming and outputting bitmap data **(col. 1 lines 9-13)** comprising: a bitmap data storage unit **(72) (Figure 15, data stored on the disk) (col. 3 lines 30-35)** for storing bitmap data **(col. 9 lines 35-36)**; a vectorization unit **(Figure 14, first smoothing unit)** for producing first vector data **(col. 1 lines 28-29 & col. 1 lines 44-47)** by vectorizing at least one part of the bitmap data **(col. 1 lines 29-33)**; a vector data transformation unit **(Figure 14, second smoothing unit)** for producing second vector data **(330) (Figure 14, col. 3 lines 5-6)** by transforming the first vector data **(col. 3 lines 1-6)** that was

produced by the vectorization part **(col. 3 lines 1-6)**; a data production unit for producing bitmap data **(final output, col. 3 line 6)** after transformation based on the second vector data **(col. 4 lines 4-8)** and the bitmap data **(col. 5 lines 30-33)**; and an output unit for outputting the bitmap data after transformation produced by the data production unit **(col. 5 lines 34-44).**

Regarding claim 6, Ishida discloses an output apparatus for forming a bird's eye view **(zoomed) (Abstract).**

Regarding claim 7, Ishida discloses an output apparatus comprising: a bitmap data storage unit **(72) (Figure 15, data stored on the disk) (col. 3 lines 30-35)** for storing bitmap data **(col. 9 lines 35-36)**; a bitmap data acquisition unit **(CPU 71) (col. 3 lines 30-31)** for acquiring bitmap data from the bitmap data storage unit **(72)**; a jaggy elimination processing unit **(First and Second Smoothing Units, Figure 14, col. 3 lines 53-62)** for executing processing of eliminating jaggies **(col. 3 lines 53-54)** appearing on the bitmap data **(col. 3 lines 59-62)**; a transformation rule retention unit **(12) (Figure 1, Outline extraction unit)** for retaining at least one bitmap data transformation rule **(col. 2 lines 4-10)** that is composed of a pair of information on certain part of the bitmap data **(col. 2 lines 10-14)** and information indicating vector data that forms an image after transformation of the certain part **(col. 2 lines 15-19)**; a data transformation unit for transforming part of the bitmap data **(col. 2 lines 59-62)** according to the rule **(col. 3 lines 1-6)**; and an output unit for outputting data that is

produced based on transformation results **(final output)** from the data transformation unit and processing results from the jaggy elimination processing unit **(col. 3 line 6).**

Regarding claims 8 and 9, Ishida further discloses the certain part **(101) (pixel of focus)** is in a rectangular shape **(102)** having a size of n X m **(102) (3x3)**, where n **(is 3)** and m **(is 3)** represent a positive integer **(the pixel and the eight pixels neighboring it enter the outline extraction unit, col. 1 lines 65-67 - col. 2 lines 1-4) (is 3).**

Regarding claim 15, Ishida discloses a method for transforming and outputting bitmap data **(col. 1 lines 41-54)** producing first vector data **(col. 1 lines 28-29 & col. 1 lines 44-47)** by vectorizing at least one part of bitmap data stored **(col. 1 lines 29-33)**; producing bitmap data after transformation that is composed of a plurality of dots **(101, pixel) (Figure 10, (col. 3 lines 53-54)** having a predetermined positional relationship **(102)** with a certain position on the bitmap data **(Figure 10, col. 2 lines 7-14)**; and outputting the bitmap data after transformation **(col. 1 lines 41-54)**, the step of producing bitmap data after transformation **(col. 1 lines 49-51)**, setting up a color of the certain position **(black or white pixel) (Figure 12, col. 2 lines 21-25)** that is determined based on the first vector data **(outline extraction, col. 1 lines 28-29 & col. 1 lines 44-47)** and a color of a dot on the bitmap data **(black or white pixel) (Figure 12, col. 2 lines 21-25)** for the dot having the predetermined positional relationship with the certain position **(Figures 10 & 11, col. 2 lines 7-14 & 26-28, col. 6 lines 34-55)**.

Regarding claim 16, Ishida discloses a method for transforming and outputting bitmap data **(col. 1 lines 9-13)** comprising the steps of: producing first vector data **(Figure 14, first smoothing unit)** by vectorizing at least one part of bitmap data stored **(col. 1 lines 29-33)**; producing second vector data **(Figure 14, second smoothing unit)** by transforming the first vector data **(Figure 14, col. 3 lines 5-6)**; producing bitmap data after transformation based on the second vector data and the bitmap data **(final output, col. 3 line 6)**; and outputting the bitmap data after transformation unit **(col. 5 lines 34-44)**.

Regarding claim 18, Ishida discloses a method for outputting comprising the steps of: acquiring bitmap data stored **(72) (CPU 71) (col. 3 lines 30-31)**; eliminating jaggies **(col. 3 lines 53-54)** appearing on the bitmap data **(col. 3 lines 59-62)**; transforming part of the bitmap data according to a transformation rule **(col. 2 lines 4-10)** having a pair of information on certain part of the bitmap data **(col. 2 lines 10-14)** and information indicating vector data that forms an image after transformation of the certain part **(col. 2 lines 15-19)**; and outputting data that is produced based on transformation results obtained in the data transformation **(final output)** step and processing results obtained in the jaggy elimination step **(col. 2 lines 59-64).**

Regarding claim 20, Ishida discloses a computer program **(col. 14 lines 31-33)** that enables a computer to execute processing of transforming and outputting bitmap data **(col. 1 lines 9-13)**, comprising the steps of: producing first vector data **(col. 1 lines**

28-29 & col. 1 lines 44-47) by vectorizing at least one part of bitmap data stored thereon **(col. 1 lines 29-33)**; producing bitmap data **(outline extraction unit) (col. 1 lines 41-54)** after transformation that is composed of a plurality of dots **(101, pixel) (Figure 10, col. 2 lines 1-4)** having a predetermined positional relationship with a certain position **(102)** on the bitmap data; and outputting the bitmap data after transformation **(outline extraction unit) (col. 1 lines 41-54)**, the step of producing bitmap data after transformation, setting up a color **(black or white pixel) (Figure 12, col. 2 lines 21-25)** of the certain position that is determined based on the first vector data **(Figure 11, col. 2 lines 26-28)** and a color of a dot on the bitmap data **(black or white pixel) (Figure 12, col. 2 lines 21-25)** for the dot having the certain positional relationship **(102)** with the certain position **(Figures 10 & 11, col. 2 lines 7-14 & 26-28, col. 6 lines 34-55)**.

Regarding claim 21, Ishida discloses a computer program **(col. 14 lines 31-33)** that enables a computer to execute processing of transforming and outputting bitmap data **(col. 1 lines 9-13)**, comprising the steps of: producing first vector data **(col. 1 lines 28-29 & col. 1 lines 44-47)** by vectorizing at least one part of bitmap data stored thereon **(col. 1 lines 29-33)**; producing second vector data **(Figure 14, second smoothing unit)** by transforming the first vector data **(Figure 14, col. 3 lines 5-6)**; producing bitmap data after transformation based on the second vector data and the bitmap data **(final output, col. 3 line 6)**; and outputting the bitmap data after transformation **(col. 5 lines 34-44)**.

Regarding claim 23, Ishida discloses a computer program **(col. 14 lines 31-33)** that enables a computer to execute the steps of: acquiring bitmap data stored **(72)** **(CPU 71) (col. 3 lines 30-31)**; eliminating jaggies **(col. 3 lines 53-54)** appearing on the bitmap data **(col. 3 lines 59-62)**; transforming part of the bitmap data according to a transformation rule **(col. 2 lines 4-10)** having a pair of information on certain part of the bitmap data **(col. 2 lines 10-14)** and information indicating vector data that forms an image after transformation of the certain part **(col. 2 lines 15-19)**; and outputting data that is produced based on transformation results obtained in the data transformation **(final output)** step and processing results obtained in the jaggy elimination step **(col. 2 lines 59-64).**

10. Claims 10, 11, 19 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Koga et al (6,556,711).

Regarding claim 10, Koga discloses an output apparatus **(col. 1 lines 11-16)** comprising: a bitmap data storage unit **(col. 8 lines 31-33 & 63-65)** for storing color bitmap data **(col. 1 lines 59-63)**; a bitmap data acquisition unit **(2008) (col. 8 line 67)** for acquiring the color bitmap data from the color bitmap data storage unit **(col. 9 lines 1-2)**; a jaggy elimination processing unit **(Image segment extraction unit 1002, image segment discrimination unit 1003, adaptive zoom unit 1004)** for executing the processing of eliminating jaggies **(zoomed image created by the adaptive zoom unit, col. 9 lines 33-40)** appearing on the color bitmap data **(col. 9 lines 11-13)**; and an

output unit for outputting data **(col. 9 lines 54-56)** that is produced based on processing results from the jaggy elimination processing unit **(col. 9 lines 52-54)**.

Regarding claim 11, Koga discloses an output apparatus wherein the jaggy elimination processing unit **(Image segment extraction unit 1002, image segment discrimination unit 103, adaptive zoom unit 1004) comprises**: a jaggy detection unit for detecting jaggies based on a brightness of a dot on the color bitmap data **(col. 28 lines 57-60)**, and a jaggy elimination unit for eliminating the jaggies detected by the jaggy detection unit **(1002, 1003, 1004) (col. 29 lines 1-20)**.

Regarding claim 19, Koga discloses a method for outputting comprising the steps of: acquiring color bitmap data stored **(col. 9 lines 1-2)**; eliminating jaggies **(zoomed image created by the adaptive zoom unit, col. 9 lines 33-40)** appearing on the color bitmap data **(col. 9 lines 11-13)**; and outputting data **(col. 9 lines 54-56)** that is produced based on processing results obtained in the jaggy elimination step **(1002, 1003, 1004) (col. 29 lines 1-20)**.

Regarding claim 24, Koga discloses a computer program **(col. 9 lines 58-59)** that enables a computer to execute the steps of: acquiring color bitmap data stored **(col. 9 lines 1-2)**; eliminating jaggies **(zoomed image created by the adaptive zoom unit, col. 9 lines 33-40)** appearing on the color bitmap data **(col. 9 lines 11-13)**; and

outputting data **(col. 9 lines 54-56)** that is produced based on processing results obtained in the jaggy elimination step **(1002, 1003, 1004) (col. 29 lines 1-20)**.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 3-5, 17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al (6,232,978) in view of Okazaki et al (4,736,399) and in further view of Tuomi et al (7,061,507).

Regarding claims 3 ,17 and 24, Ishida teaches a system **(col. 1 lines 9-13)** for transforming and outputting bitmap data comprising **(col. 1 lines 41-54)**: a bitmap data storage unit **(72) (Figure 15, data stored on the disk) (col. 3 lines 30-35)** for storing bitmap data **(col. 9 lines 35-36)**; a vectorization unit **(Figure 14, first smoothing unit)** for producing first vector data by vectorizing at least one part of the bitmap data **(col. 1 lines 29-33)**; a data production unit for producing bitmap data **(final output, col. 3 line 6)** after transformation based on the second vector data **(col. 4 lines 4-8)** and the bitmap data **(col. 5 lines 30-33)**; and an output unit for outputting the bitmap data after transformation produced by the data production unit **(col. 5 lines 34-44)**.

Ishida does not teach a production unit producing bitmap data after transformation based on an inverse function, the bitmap data and first vector data; producing second coordinate information based on information that specifies a target dot to be processed, using the inverse function of the certain calculation; a color determination unit for determining a color of a position specified by the second coordinate information, based on the first vector data produced by the vectorization unit and a color of a dot on the bitmap data, and then setting up the color determined thereby for the target dot specified by the first coordinate information; and a control unit for controlling so that the second coordinate information production by the inverse transformation unit and the dot color determination by the color determination unit can be performed on all dots on bitmap data to be outputted.

Okazaki teaches a system **(col. 7 lines 20-45)** producing bitmap data **(corrected image produced by the digital fluorographic apparatus, col. 1 lines 10-11 & col. 3 lines 20-23)** after transformation based on an inverse function **(Figure 5, col. 3 lines 50-54)**, the bitmap data **(distorted image, col. 3 lines 32-33)** and first vector data **(X, col. 3 lines 21-24)**, producing second coordinate **(distorted image, col. 3 lines 23-24)** information based on information that specifies a target dot to be processed **(pixel (picture element), col. 3 lines 22)**, using the inverse function of the certain calculation **(Figure 5, col. 3 lines 50-54)**; a color determination unit **(intensity, col. 1 lines 14-16 & grey level, col. 7 line 34)** for determining a color **(intensity & grey level)** of a position specified by the second coordinate information **(X', col. 3 lines 21-24)**, based on the first vector data **(X)** produced by the vectorization unit and a color

(intensity & grey level) of a dot **(pixel)** on the bitmap data **(digital image)**, and then setting up the color **(intensity & grey level)** determined thereby for the target dot specified by the first coordinate information **(pixel (picture element), col. 3 lines 22)**; and a control unit for controlling so that the second coordinate information production by the inverse transformation unit **(Figure 5, col. 3 lines 50-54)** and the dot color determination by the color determination unit **(intensity & grey level)** can be performed on all dots on bitmap data to be outputted **(corrected image, col. 3 lines 20-23)**.

Additionally, Tuomi teaches where RGB color is part of the input digital image where determination of an output pixel can be derived **(Abstract, col. 6 lines 54-58)**.

In view of Okazaki and in further view of Tuomi, it would have been obvious to one of ordinary skill in the art at the time of the invention to have applied the inverse color mapping function of Okazaki's invention and the extended feature of RGB color of Tuomi's invention to Ishida's invention thus providing a more dynamic system and robust system for jaggy correction and image rendering.

Regarding claim 4, neither Ishida nor Okazaki teaches a specific determination of which adjacent dot used to determine the color of the target dot.

However, Okazaki does teach obtaining a second coordinate information production by the inverse transformation unit **(Figure 5, col. 3 lines 50-54)** and the dot color determination by the color determination unit **(intensity & grey level)** can be performed on all dots on bitmap data to be outputted **(corrected image, col. 3 lines 20-23)**.

Tuomi teaches where a line represented by the first vector data **(col. 5 lines 55-59)** that was produced by the vectorization unit passes through a dot **(Figure 1a shown further broken into 4 sub-pixels)**, the color determination unit **(video interface, 308) (col. 5 line 67 - col. 6 lines 1-4)** determines in such a manner that if the position is placed above the line **(vector)**, a of a dot color **(Figure 1a)** immediately above the dot including the position **(102, 106)** is determined as a color of the position **(col. 4 lines 6-12)**, or if placed below the line, a color of a dot immediately below the dot **(104, 108)** including the position is determined as a color of the position **(col. 4 lines 13-15)**, and then sets up the color determined thereby for the target dot specified by the first coordinate information **(col. 4 lines 15-21)**.

In the examiners view the reference's ability to determine which adjacent dot **(Figure 9, lines 60-67)** to use for color determination (left, right, upper, lower etc.) is dependent on the direction and magnitude of the vector.

In view of Okazaki and in further view of Tuomi, it would have been obvious to one of ordinary skill in the art at the time of the invention to have applied the inverse color mapping function of Okazaki's invention and the refined color determination scheme of Tuomi's invention to Ishida's invention thus providing a more dynamic system and robust system for jaggy correction and image rendering.

Regarding claim 5, neither Ishida nor Okazaki teaches a specific determination of which adjacent dot used to determine the color of the target dot.

However, Okazaki does teach obtaining a second coordinate information production by the inverse transformation unit **(Figure 5, col. 3 lines 50-54)** and the dot color determination by the color determination unit **(intensity & grey level)** can be performed on all dots on bitmap data to be outputted **(corrected image, col. 3 lines 20-23)**.

Tuomi further teaches where a line represented by the first vector data that was produced by the vectorization part passes through a dot **(Figures 4 & 5, pixel 408 broken down into 16 sub-pixels with 504 a sub portion of 408)**, the color determination unit determines **(video interface, 308) (col. 5 line 67 - col. 6 lines 1-4)** in such a manner that if the position is placed on a left hand with respect to the line **(vector)**, a color of a dot immediately on a left **(sub-pixel)**, adjacent to the dot including the position is determined as a color of the position **(col. 6 lines 40-42)**, or if placed on a right hand, a color of a dot immediately on a right, adjacent to the dot including the position is determined as a color of the position **(col. 6 lines 40-42)**, and then sets up the color determined thereby for the dot specified by the first coordinate information **(col. 5 line 67 - col. 6 lines 1-4)**.

In the examiners view the reference's ability to determine which adjacent dot **(Figure 9, lines 60-67)** to use for color determination (left, right, upper, lower etc.) is dependent on the direction and magnitude of the vector.

In view of Okazaki and in further view of Tuomi, it would have been obvious to one of ordinary skill in the art at the time of the invention to have applied the inverse color mapping function of Okazaki's invention and the refined color determination

scheme of Tuomi's invention to Ishida's invention thus providing a more dynamic system and robust system for jaggy correction and image rendering.

13. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koga et al (6,556,711) in view of Ishida et al (6,232,978)..

Regarding claim 12, Koga does not teach having a mid-point of a straight line (vector) as an image segment extraction coordinate.

Ishida teaches wherein the jaggy elimination processing unit **(col. 3 lines 53-54)** further comprises a vector data production unit for producing vector data **(col. 1 lines 28-29 & col. 1 lines 44-47)**, based on all stair-like straight lines (Figure 5) that were detected as the jaggies, by drawing a straight line from a midpoint of one straight line and a midpoint of another straight line adjacent thereto **(Figure 5)**.

In view of Ishida, it would be obvious to one of ordinary skill in the art at the time of the invention to have incorporated Ishida's invention with Koga's to provide different degrees of processing options for the elimination of jaggies depending on the color determination.

14. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koga et al (6,556,711) in view of Okazaki et al (4,736,399) and in further view of Tuomi et al (7,061,507).

Regarding claim 13, neither Koga nor Okazaki teaches a specific determination of which adjacent dot used to determine the color of the target dot.

However, Okazaki does teach obtaining a second coordinate information production by the inverse transformation unit **(Figure 5, col. 3 lines 50-54)** and the dot color determination by the color determination unit **(intensity & grey level)** can be performed on all dots on bitmap data to be outputted **(corrected image, col. 3 lines 20-23)**.

Tuomi teaches where a line represented by the first vector data **(col. 5 lines 55-59)** that was produced by the vectorization unit passes through a dot **(Figure 1a shown further broken into 4 sub-pixels)**, the color determination unit **(video interface, 308) (col. 5 line 67 - col. 6 lines 1-4)** determines in such a manner that if the position is placed above the line **(vector)**, a of a dot color **(Figure 1a)** immediately above the dot including the position **(102, 106)** is determined as a color of the position **(col. 4 lines 6-12)**, or if placed below the line, a color of a dot immediately below the dot **(104, 108)** including the position is determined as a color of the position **(col. 4 lines 13-15)**, and then sets up the color determined thereby for the target dot specified by the first coordinate information **(col. 4 lines 15-21)**.

In the examiners view the reference's ability to determine which adjacent dot **(Figure 9, lines 60-67)** to use for color determination (left, right, upper, lower etc.) is dependent on the direction and magnitude of the vector.

In view of Okazaki and in further view of Tuomi, it would have been obvious to one of ordinary skill in the art at the time of the invention to have applied the inverse color mapping function of Okazaki's invention and the refined color determination

scheme of Tuomi's invention to Ishida's invention thus providing a more dynamic system and robust system for jaggy correction and image rendering.

Regarding claim 14, neither Koga nor Okazaki teaches a specific determination of which adjacent dot used to determine the color of the target dot.

However, Okazaki does teach obtaining a second coordinate information production by the inverse transformation unit **(Figure 5, col. 3 lines 50-54)** and the dot color determination by the color determination unit **(intensity & grey level)** can be performed on all dots on bitmap data to be outputted **(corrected image, col. 3 lines 20-23)**.

Tuomi further teaches where a line represented by the first vector data that was produced by the vectorization part passes through a dot **(Figures 4 & 5, pixel 408 broken down into 16 sub-pixels with 504 a sub portion of 408)**, the color determination unit determines **(video interface, 308) (col. 5 line 67 - col. 6 lines 1-4)** in such a manner that if the position is placed on a left hand with respect to the line **(vector)**, a color of a dot immediately on a left **(sub-pixel)**, adjacent to the dot including the position is determined as a color of the position **(col. 6 lines 40-42)**, or if placed on a right hand, a color of a dot immediately on a right, adjacent to the dot including the position is determined as a color of the position **(col. 6 lines 40-42)**, and then sets up the color determined thereby for the dot specified by the first coordinate information **(col. 5 line 67 - col. 6 lines 1-4)**.

In the examiners view the reference's ability to determine which adjacent dot **(Figure 9, lines 60-67)** to use for color determination (left, right, upper, lower etc.) is dependent on the direction and magnitude of the vector.

In view of Okazaki and in further view of Tuomi, it would have been obvious to one of ordinary skill in the art at the time of the invention to have applied the inverse color mapping function of Okazaki's invention and the refined color determination scheme of Tuomi's invention to Ishida's invention thus providing a more dynamic system and robust system for jaggy correction and image rendering.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BARBARA D. SQUIBB whose telephone number is (571)270-5082. The examiner can normally be reached on M-Th, 7am-4pm Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Haskins L. Twyler can be reached on 571-272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Barbara D Squibb
Examiner
Art Unit 2625

/Barbara D Squibb/
Examiner, Art Unit 2625

/Twyler L. Haskins/
Supervisory Patent Examiner, Art Unit 2625
3/13/08